

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A method for drying substrates which dries a surface of each of the substrates, comprising:

housing substrates within a processing vessel containing a cleaning fluid;

lowering a fluid face of the cleaning fluid within the processing vessel with respect to the substrates;

introducing a drying fluid under a liquid condition within the processing vessel using a nozzle with the nozzle forming individual liquid drops of the drying fluid and supplying the liquid drops onto the fluid face of the cleaning fluid such that a thickness of a liquid layer of the drying fluid on the cleaning fluid is continuously maintained to be equal to or greater than a predetermined thickness; and

supplying inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel.

2. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method houses the substrates within the processing vessel in an inclined condition at a predetermined angle with respect to a vertical plane, and supplies the liquid drops of the drying fluid using the nozzle with the nozzle inclined at an inclination angle substantially similar to the predetermined angle of the inclined substrates.

3. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method determines an introduction direction of the drying fluid into the processing vessel and determines an introduction initial speed of the drying fluid so as to expand the drying fluid up to an entire width of the substrates on the fluid face of the cleaning fluid.

4. (Cancelled)

5. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method increases a supplying quantity of the drying fluid and/or the inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel.

6. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method changes supporting positions of the substrates during exhausting of the cleaning fluid from the processing vessel.

7. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method makes an interior of the processing vessel an inert gas environment prior to exhausting of the cleaning fluid from the processing vessel.

8. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method carries out the lowering of the fluid face of the cleaning fluid and the introducing of the drying fluid in the liquid condition at a room temperature.

9. (Previously Presented) A method for drying substrates as set forth in claim 1, wherein

the method supplies inert gas to the nozzle, and flows the drying fluid by a pressure of the inert gas which is supplied to the nozzle.

10. (Currently Amended) A device for drying substrates which dries a surface of each of the substrates, the device comprising:

a processing vessel containing a cleaning fluid;

means for supporting substrates within the processing vessel;

means for relatively lowering a fluid face of the cleaning fluid within the processing vessel with respect to the substrates;

means for introducing a drying fluid under a liquid condition within the processing vessel using a nozzle with the nozzle forming individual liquid drops of the drying fluid and supplying the liquid drops of the drying fluid onto the fluid face of the cleaning fluid; and

means for supplying inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel; and

means for controlling the supplying of the inert gas and for maintaining a predetermined thickness of the drying fluid on the cleaning fluid.

11. (Previously Presented) A device for drying substrates as set forth in claim 10, wherein

the means for supporting substrates supports the substrates within the processing vessel in an inclined condition at a predetermined angle with respect to a vertical plane, and the nozzle supplies the liquid drops of the drying fluid with the nozzle inclined at an inclination angle substantially similar to the predetermined angle of the inclined substrates.

12. (Previously Presented) A device for drying substrates as set forth in claim 10, wherein

the means for introducing the drying fluid determines an introduction direction of the drying fluid into the processing vessel and determines an introduction initial speed of the drying fluid so as to expand the drying fluid up to an entire width of the substrates on the fluid face of the cleaning fluid.

13. (Cancelled)

14. (Previously Presented) A device for drying substrates as set forth in claim 10, further comprising

means for increasing a supplying quantity of the drying fluid and/or the inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel.

15. (Previously Presented) A device for drying substrates as set forth in claim 10, wherein

the means for supporting substrates includes
an upper face with a plurality of supporting grooves therein, and
a cleaning fluid introduction groove which extends from a bottom section of each of
the supporting grooves in a downward direction with respect to the upper face.

16. (Previously Presented) A device for drying substrates as set forth in
claim 10, wherein

the means for supporting substrates is a pair of supporting members for selectively
supporting the substrates at different supporting positions, and the device for drying
substrates further comprises means for changing the supporting positions of the substrates
during exhausting of the cleaning fluid from the processing vessel.

17. (Previously Presented) A device for drying substrates as set forth in
claim 10, further comprising

means for making an interior of the processing vessel an inert gas environment prior
to exhausting of the cleaning fluid from the processing vessel.

18. (Previously Presented) A device for drying substrates as set forth in
claim 10, further comprising

means for moving the nozzle towards the substrates during exhausting of the cleaning
fluid from the processing vessel.

19. (Previously Presented) A device for drying substrates as set forth in
claim 10, further comprising

means for circulating the drying fluid when the means for introducing the drying fluid
is not introducing the drying fluid under a liquid condition within the processing vessel.

20. (Currently Amended) A device for drying substrates which dries a surface of
each of the substrates, the device comprising:

a processing vessel containing a cleaning fluid;

means for supporting substrates within the processing vessel;

means for relatively lowering a fluid face of the cleaning fluid within the processing vessel with respect to the substrates; and

means for introducing a drying fluid under a liquid condition within the processing vessel using a nozzle with the nozzle forming individual liquid drops of the drying fluid and supplying the liquid drops of the drying fluid onto the fluid face of the cleaning fluid,

the device for drying substrates having a number of nozzles that is determined in response to a size of the substrates ~~and a pitch of the substrates to maintain a predetermined thickness of the drying fluid on the fluid face of the cleaning fluid.~~

21. (Previously Presented) A device for drying substrates which dries a surface of each of the substrates, the device comprising:

a processing vessel containing a cleaning fluid;

means for supporting substrates within the processing vessel;

means for relatively lowering a fluid face of the cleaning fluid within the processing vessel with respect to the substrates; and

means for introducing a drying fluid under a liquid condition within the processing vessel using a nozzle with the nozzle forming individual liquid drops of the drying fluid and supplying the liquid drops of the drying fluid onto the fluid face of the cleaning fluid,

the nozzle having drying fluid blowing holes a number of which is greater than a number of the substrates by 1, and the substrates being dried simultaneously.

22. (Previously Presented) A device for drying substrates as set forth in claim 10, further comprising

means for supplying inert gas to the nozzle so as to flow the drying fluid by a pressure of the inert gas.

23. (Currently Amended) A device for drying substrates comprising:

a processing vessel containing a cleaning fluid;

a substrate supporting section configured to support substrates within the processing vessel;

an exhausting section arranged and configured to lower a fluid face of the cleaning fluid in the processing vessel;

a drying fluid supplying section arranged and configured to supply a drying fluid onto the fluid face of the cleaning fluid, the drying fluid supplying section having a nozzle dimensioned and configured to form individual liquid drops of the drying fluid and supply the liquid drops of the drying fluid to the fluid face of the cleaning fluid; and

an inert gas supplying section configured to supply an inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel; and

a control device configured for controlling the supply of the inert gas and for maintaining a predetermined thickness of the drying fluid on the cleaning fluid.

24. (Previously Presented) A device for drying substrates as set forth in claim 23, wherein

the substrate supporting section is configured to support the substrates within the processing vessel in an inclined condition at a predetermined angle with respect to a vertical plane, and the nozzle supplies the liquid drops of the drying fluid with the nozzle inclined at an inclination angle substantially similar to the predetermined angle of the inclined substrates.

25. (Cancelled)

26. (Previously Presented) A device for drying substrates as set forth in claim 23, wherein

the substrate supporting section further comprises an upper face with a plurality of supporting grooves therein, and

a slit extending from a bottom section of each of the supporting grooves in a downward direction with respect to the upper face.

27. (Previously Presented) A device for drying substrates as set forth in claim 23, wherein

the substrate supporting section further comprises

a pair of supporting members arranged and configured to selectively support the substrates at different supporting positions within the processing vessel.

28. (Currently Amended) A device for drying substrates, comprising a processing vessel containing a cleaning fluid; a substrate supporting section configured to support substrates within the processing vessel;

an exhausting section arranged and configured to lower a fluid face of the cleaning fluid within the processing vessel;

a drying fluid supplying section arranged and configured to supply a drying fluid onto the fluid face of the cleaning fluid, the drying fluid supplying section having a nozzle dimensioned and configured to form liquid drops of the drying fluid having a predetermined range of widths and supply the liquid drops of the drying fluid to the fluid face of the cleaning fluid; and

an inert gas supplying section configured to supply an inert gas into the processing vessel during exhausting of the cleaning fluid from the processing vessel; and

a control device configured for controlling the supply of the inert gas and for maintaining a predetermined thickness of the drying fluid on the cleaning fluid.